

Chris Gubbrecht

Closure, Section D, Debris Rule Decontamination. Requirements identified in this section include, but are not limited to:

- Material must meet the definition of debris found in 40 CFR 268.45;
- Selection of a specified technology as identified in 40 CFR 268.45. Extraction or destruction technologies should be selected over immobilization technologies whenever possible. For decontaminating hazardous debris piping, tanks and associated ancillary equipment in Building 123, chemical extraction using water washing and spraying will be selected. Water washing and spraying is defined as application of water sprays or water baths of sufficient temperature, pressure, residence time, agitation, surfactants, acids, bases and detergents to remove hazardous contaminants from debris surfaces and surface pores or to remove contaminated debris surface layers. Water containing sodium carbonate and trisodium phosphate will be used as decontamination solution;
- A volume of approximately three times the piping/tanks volume of this unit will be used to decontaminated the piping and ensure adequate residence time; and
- Clean surface debris standards as specified in 40 CFR 268.45 must be met.

*Comment #2*  
All treatment residuals generated from extraction and/or destruction technologies used in the Closure of Building 123 (including rinsates) will be characterized in accordance with 40 CFR 262.11 and managed accordingly. Treatment residuals do not meet the definition of debris.

*Comment #3*  
In the event that closure performance standards for debris are not met, the piping will be removed and handled as RCRA mixed waste.

## 8.0 SPECIFIC CLOSURE ACTIVITIES

Closure activities will be performed to achieve the objectives of the closure performance standard. (See RCRA Permit, Part 10 Closure, Section C-6, "Closure Performance Standards"). The activities will be conducted with decontamination and decommissioning activities covered by the Building 123 PAM, which includes remediation of the remainder of the building and abandoned OPWLs under the building. Closure activities will be implemented to ensure the protection of human health and the environment, and waste minimization.

The following sections outline the procedures necessary to close active process waste lines in Building 123, and the active underground line between Building 123 and Valve Vault 18.

### 8.1 PREPARATION OF ENGINEERING PACKAGES AND WORK PACKAGES

Engineering and work packages will be used to govern the deactivation and decommissioning activities. Engineering designs will be developed for removal and decommissioning activities. The engineering package will define the sequence of activities and methods of size reducing, dismantling, and packaging of the building materials. The packages are being prepared for the Building 123 project in three phases:

## CLOSURE PLAN FOR BUILDING 123 COMPONENTS OF RCRA UNIT 40

### 1.0 INTRODUCTION

Partial closure of RCRA Unit 40 includes the closure of the RCRA regulated process waste lines, sumps, and pumping stations associated with Building 123 at the Rocky Flats Environmental Technology Site (RFETS). This system includes above ground process waste lines currently used in the building, as well as one active underground line. The Building 123 area encompasses overlapping Individual Hazardous Substance Sites (IHSSs) 121 and 148. IHSS 121 includes the underground Original Process Waste Lines (OPWLs) P-1, P-2, and P-3. Figure 1-1 shows the location of Building 123 and IHSSs 121 and 148. Leakage from old process waste lines and possible spills from operations may have resulted in contaminated soil beneath and adjacent to Building 123. This potentially contaminated soil has been designated IHSS 148. The OPWL is a network of tank and underground pipelines constructed to transport and temporarily store process waste from point of origin to on-site treatment and discharge points. Both the active and inactive systems include above and underground lines that transfer the process waste to valve vaults or holding tanks. All process waste lines inside the building are currently active. Closure will include deactivation, dismantlement, and remediation of all system components in Building 123, and the active underground pipeline that leaves the building and extends to Valve Vault 18.

Partial closure of RCRA Unit 40 is part of a larger project to decontaminate and decommission (D&D) Building 123 and surrounding area. This project will remove Buildings 123, 123S, 113, and 114 at RFETS; eliminate IHSS 148; and close a portion of RCRA Unit 40. The Building 123 slab and foundation will be removed as required to remediate contamination beneath the building as dictated by soil sampling results. The overall project is being conducted as an accelerated action under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) approved under the Building 123 Proposed Action Memorandum (PAM). The PAM is a decision document for the D&D of Building 123 and has been approved by the Colorado Department of Public Health and Environment (CDPHE). The Building 123 PAM references this unit closure plan. RCRA Unit 40 is currently under Interim status, and as a result, partial closure activities fall under Colorado Hazardous Waste Regulations: Part 265, Subpart G - "Closure and Post Closure".

### 1.1 APPLICABILITY *Comment # 4*

This RCRA Closure Plan applies to both the aboveground and subsurface Process Waste Tank System found in and beneath Building 123. This Closure Plan will identify the options available for the management, and the removal and/or remediation of this system. This Closure Plan does not apply to:

- the inactive portion of the P-1 Pipeline,
- to Pipelines P-2, or P-3;
- nor to any soil contamination found under this building.

The above ground and underground process waste line connecting Building 123 to Valve Vault 18 are the active part of RCRA Unit 40 associated with Building 123. Part of P-1 was incorporated into the current system and is part of the RCRA Closure Plan while other sections were removed in 1989.

Building operations prior to 1985 that generated mixed waste were not regulated under RCRA, and, therefore, these pipelines are not part of RCRA Unit 40. Non-regulated underground pipelines that were abandoned prior to RCRA regulation include: pipelines P-2 and P-3 which were abandoned in 1974 (Blue and red on attached First Floor Plan). As such, they are not included with this closure plan. The Building 123 PAM and Building 123 IHSS Sampling and Analysis Plan (SAP) address the investigation and potential remediation of the abandoned lines and any soil contamination created by the lines. The implementation of the RCRA Closure Plan will be contained in the facility decommissioning plan.

The following is a summary of the decommissioning plan for the process waste piping system in Building 123.

The Decommissioning of Building 123 has been divided into four main phases:

- I. Strip-Out and utility isolation
- II. Asbestos Abatement
- III. Demolition
- IV. Characterization and Remediation of IHSS 121 and 148.

During Phase I, the above grade section of the process waste line (shown in pink on Attachment 1, First Floor Plan) will be removed under either Option 1, 2 or 3 as described in Section 7.0 of this Closure Plan. The piping will be plugged where it goes below ground in Rooms 156, 157 and 158. After removal, all the above ground piping will be packaged as either Low Level Waste or Mixed Waste depending the results of rinsate sampling. The piping will be removed to prepare the building for demolition in Phase III.

The underground process waste lines will be managed during Phase IV. The underground process waste lines refer to the inactive section of P1 (yellow on the attached sketch), P2 (blue), P3 (orange), and the active underground section of piping which goes to Valve Vault 18 (green).

During Phase IV, the soil and the concrete slab will be sampled (drilled) for characterization. Closure activities for the inactive underground process waste lines, the building slab and surrounding soil will be determined based upon the results of the characterization study. Final disposition of the underground portion of the active process waste line (green) will depend on sample analysis of the rinsate.

## 2.0 FACILITY CONTACT

The RFETS contact for closure activities is:

# Comments on B123 Closure Plan

Dave Grosek 3305

October 24, 1997

Section 6.1.1 and 7.1.1 are not clear.

x 3710 FAX

Part 6.1.1 of the closure plan lists many chemicals that cannot be hazardous waste, and does not list those that made the system a hazardous waste unit. Previous Part A Permits for Unit 40 included the following EPA hazardous waste codes, and these should be addressed in the closure plan. If these waste codes do not apply then an explanation should be given.

TED HOPKINS

## Part A Included in Section 6 of Closure Plan

D001	16N	No
D002	Corrosive	Yes, acids and bases
D004	As	No
D005	Ba	No
D006	Co	No
D007	Cr	No
D008	Pb	No
D009	Hg	No
D010	Se	No
D011	Bz	No
D018	Benzene	No
D019	Carbon Tetra	No
D028	1,2-Dichloroethane	No
D029	1,1-Dichloroethy	No
D035	MEK	No
D038	Pyridine	No
D040	TCE	No
D043	Vinyl Chloride	No
F001		No
F002		No
F003		No
F005		Yes (Toluene)
F007	cyanide	No
F008	cyanide	No
F009	cyanide	No

Kent - 5215

10/27

Here are Grosek's comments

on B123 RCRA Closure Plan

Look different & extensive

Please get these addressed ASAP

Bill Felt

} Electroplating - ~~these~~ were cyanides used in the process?

The system must be treated for these constituents - not those listed in the closure plan. Most of the ones in the closure plan are irrelevant for RCRA closure.

List each constituents and the associated standard each constituent will be compared to, so a determination of pass/fail can clearly be made. RFCA Attachment 5 standards appear to be more stringent than RCRA standards. Why are RFCA Attachment 5 standards used rather than the RCRA standards already used and accepted at the Site?

All the above information should clearly be presented in Section 7.0 Closure Performance Standard. Will the absolute standard "all visible waste residuals have been removed" work? Even the RCRA clean debris surface standard allows 5% to remain.

Section 7.1.1 should list all constituents included in the Performance standard and the criteria.

Section 7.3. How are we going to look at the inside of pipes? This approach does not seem practical.

Section 6.1.1 includes radionuclides as being present, however, there is no mention of radiation protection or sample the plan.

Comments on Closure Plan for Bldg 123 Components of RCRA Unit 40  
Bill Fitch  
Sept 25, 1997

#### Section 7.1

The discussion uses confusing terminology. I think what is intended is

A piece of pipe in the above ground portion of pipe in RCRA Unit 40 in Bldg 123 is assumed to be low level rad waste because of the liquids it carried during operations.

If the pipe is clean inside (i.e. exhibits no scale or residue) it will be disposed of as low level rad waste at either Envirocare or Nev. Test Site.

If there is a scale inside the appropriate tests will be run to determine if the scale composition is such that results in the pipe being classified as mixed waste. In that case the pipe will be disposed of as low level mixed rad waste at an off site location ( I assume Envirocare although I don't know)

All pipe is either LLW or MLW.

The pipe will not be rinsed to attempt to reduce contamination inside the pipe, because this will generate rinsate.

(If any part of RCRA Unit 40 in bldg 123 is sanitary (solid) waste then you need to add another bullet saying that and saying where it will go.)

#### Section 8.0 ( an editorial suggestion)

The second paragraph might benefit from adding a new third sentence which states (See Option 1 in Section 8.1 and Option 2 in Section 8.2 below.)

#### Section 9.1 ( A minor editing point)

The last paragraph needs to be left justified.

#### Table 10-1 ( A previous suggestion)

This table would still benefit from being separated into Option 1 and Option 2 to support the presentation of those options in the text.

# Comment Resolution Form 123 Closure Plan

Responses prepared by Ted A. Hopkins/Richard Jensen

Verbal Comments Received from a meeting with the State, October 15, 1997 in regard to the 123 Closure Plan. Present at this meeting were: Chris Gilbreath, CDPHE; Richard Jensen, Denver West ; Randy Leitner, Kaiser-Hill; Dennis Laurita, RMRS; Dortha Hoyt, RMRS; and Ted Hopkins, RMRS.

Location	Comment	Originator	Response
7.0	What is the status of the above ground portions of RCRA Unit 40? Do you have documentation to support that approximately 90% of the unit was replaced in 1989? Exactly how much piping was replaced and what was left in place?	Chris Gilbreath	<p>Dortha Hoyt and Bob Campbell reviewed all the engineering files and interviewed personnel familiar with the operations of Building 123. They concluded from these actions that the information regarding the above ground portion of this unit that was contained in the 123 Closure Plan was incorrect. Less than 50% of the above ground portion of this unit was replaced in 1995. Much less than the 80% previously identified and much latter than the original 1989 date. From 1952-1997, this building housed various laboratory operations. Although administrative controls were added in 1987 to prevent listed wastes from being disposed of into the process waste system, it is a case of too little, too late. The result of this change is that both the above ground and below ground portions of RCRA Unit 40 will have to be closed in accordance with 40 CFR 265 standards.</p> <p>The 123 Closure Plan was modified to reflect this change: Section 7.0 Preliminary work on above ground portion of RCRA Unit 40 was deleted and replaced with 7.0 Closure Performance Standards. Three options were identified for both the above ground and below ground portions of this unit: Decontamination (rinsate option), Debris treatment, and management as a hazardous waste. From 7.0 on, a new numbering system was required. For example, Table 10-1 became Table 9-1. A new option was added in Table 9-1. A new color diagram of the building showing the piping history was added.</p>
Section 7	What WSRIC data is available to support the position that the above ground portion of the system used only D002 wastes?	Chris Gilbreath	<p>Although WSRIC does not list any listed wastes as being disposed of in the system from 1989 to date, the building did house numerous laboratory operations. No administrative controls were in place prior to 1987. Much of the above ground piping has never been replaced and therefore is suspect. Therefore, both the above ground and below ground portions of this unit will require RCRA Closure.</p>
General	Why wasn't Valve Vault #18 closed with the 123 piping system?	Chris Gilbreath	<p>Valve Box 18 is still in use by Building 122. Therefore Valve Box 18 must remain in service until Building 122 is closed.</p>
General	What system is or can be put into place to adequately track the status of RCRA Unit 40 that is being closed in pieces?	Chris Gilbreath	<p>Natalie Van Tyne (RMRS Permitting) will put together a set of files and drawings that reflect the current status of this unit.</p>
General	123 Contingency Plan requirements. With this unit being closed, what, if any Contingency Plan requirements are needed?	Ted Hopkins	<p>Chris Gilbreath and Randy Leitner agreed that the Contingency Plan found in the RFETS Permit along with the site-specific health and safety plans would be adequate for Closure of this unit</p>